finding an innermost finger and an outermost finger for a given hand;

computing a scaling velocity from a change in a distance between the innermost and outermost fingers;

supplementing the computed scaling velocity with a measure of scaling velocity selective for symmetric scaling about a fixed point between a thumb and other fingers of the given hand; and

transmitting the computed, supplemented scaling velocity as a control signal to an electronic or electromechanical device.

21. The method of claim 20 further comprising:

computing a rotational velocity from a change in angle between the innermost and outermost fingers;

supplementing the computed rotational velocity with a measure of rotational velocity selective for symmetric rotation about a fixed point between the thumb and other fingers of the given hand; and

transmitting the computed, supplemented rotational velocity as a control signal to an electronic or electromechanical device.

22. The method of claim 21 further comprising:

computing a translation weighting for each finger;

computing a translational velocity for each finger;

computing a translational velocity average from the computed translational velocity components and the computed translation weightings; and

transmitting the computed, supplemented translational velocity average as a control signal to an electronic or electromechanical device.

23. The method of claim 22, wherein the computed translation weightings of innermost and outermost fingers are constant and computed translation weightings of central fingers are inversely related to polar component speeds so as to prevent vertical translation bias while performing hand scaling and rotation but otherwise include all available fingers in the computed translational velocity average.

24. The method of claim 23, wherein the computed translational weightings are related to the ratio of each finger's speed to a speed of a fastest finger.

25. The method of claim 24, wherein the computed translational weightings are related to the ratio of each finger's speed to a speed of a fastest finger.

26. The method of claim 20 further comprising:

computing a translation weighting for each finger;

computing a translational velocity for each finger;

computing a translational velocity average from the computed translational velocities and the computed translation weightings; and

transmitting the computed, supplemented translational velocity average as a control signal to an electronic or electromechanical device.

27. The method of claim 21, wherein the computed translation weightings of innermost and outermost fingers are constant and computed translation weightings of central fingers are inversely related to polar component speeds so as to prevent vertical translation bias while performing hand scaling and rotation but otherwise include all available fingers in the computed translational velocity average.

28. The method of claim 27, wherein the computed translational weightings are related to the ratio of each finger's speed to a speed of a fastest finger.

29. The method of claim 28, wherein the computed translational weightings are related to the ratio of each finger's speed to a speed of a fastest finger.

30. A method for extracting multiple degrees of freedom of hand motion from successive proximity images representing successive scans of a plurality of proximity sensors of a multi-touch surface, the method comprising:

tracking, through successive proximity images, a plurality of contacts associated with a plurality of fingers;

finding an innermost finger and an outermost finger for a given hand;

computing a rotational velocity from a change in angle between the innermost and outermost fingers;

supplementing the computed rotational velocity with a measure of rotational velocity selective for symmetric rotation about a fixed point between a thumb and other fingers of the given hand; and

transmitting the computed, supplemented rotational velocity component as a control signal to an electronic or electromechanical device.

31. The method of claim 30 further comprising:

computing a translation weighting for each finger;

computing a translational velocity for each finger;

computing a translational velocity average from the computed translational velocities and the computed translation weightings; and

transmitting the computed, supplemented translational velocity average as a control signal to an electronic or electromechanical device.

32. The method of claim 31, wherein the computed translation weightings of innermost and outermost fingers are constant and computed translation weightings of central fingers are inversely related to polar component speeds so as to prevent vertical translation bias while performing hand scaling and rotation but otherwise include all available fingers in the computed translational velocity average.

33. The method of claim 32, wherein the computed translational weightings are related to the ratio of each finger's speed to a speed of a fastest finger.

34. The method of claim 33, wherein the computed translational weightings are related to the ratio of each finger's speed to a speed of a fastest finger.

35. A method for extracting multiple degrees of freedom of hand motion from successive proximity images representing successive scans of a plurality of proximity sensors of a multi-touch surface, the method comprising:

tracking, through successive proximity images, a plurality of contacts associated with a plurality of fingers;

computing a translation weighting for each finger;

computing a translational velocity for each finger;